

## **Developing a Children's Health Network: Linkages among heterogeneous primary care sites**

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Health care for infants and children varies widely in its adherence to principles of good primary care. The features of continuity, comprehensiveness, and coordination, as delineated by the Institute of Medicine [1], are often lacking in urban areas. Multiple site use is common, with many different providers and charting methods involved in care to family members. Prior medical history from other institutions, or even within one site, may be absent or incomplete during ambulatory care encounters for preventive or urgent care. Thus, quality of care suffers as clinicians function with little information about their little patients. Furthermore, lack of computerization and uniformity of these scattered records impairs the collection of longitudinal and aggregate data for outcome studies, public health surveillance, community planning, and health services research as financing methods evolve.

The Children's Health Network (CHN) is a community-based multidisciplinary effort to extend current information technology to underserved areas and smaller institutions [2]. With funding from the Maternal and Child Bureau (U.S.P.H.S.), it developed a PC-based distributed client-server clinical information system for sharing demographic and clinical data when children receive primary, emergency, or specialist care at more than one location.

Adapting a uniform ambulatory care data set proposed by the National Center for Vital and Health Statistics, the software developed for CHN allows rapid entry of comprehensive abstracted encounter data from customized (local sites, programs, medication lists) or standard (ICPC, CPT, ICD9CM) vocabularies to include reason for visit, screening and diagnostic procedures, medications, immunizations, and diagnoses, as well as free text entry for clinical comments, results, disposition plans, and so on. Its SQL data base permits production of reports and analyses for other data bases and agencies, and parent-held records in hard or electronic copy.

In developing the CHN special attention has been given to assuring confidentiality (audit trail, passwords, consent forms), so that a parent or mature adolescent may accept or decline data transmission from a primary care site to other providers in the Network.

A hospital pediatric ambulatory department and a school-based health clinic were pilot sites to evaluate the effectiveness of screen designs and utility of the Network configuration. Plans (to be presented) involve additional facilities, such as community health centers and practices, and decision-making resources, including AHCPR guidelines and NLM on-line services [3].

System specifications, statistical findings, reporting capabilities, and user and parent satisfaction with clinical function and confidentiality measures will be presented during the Symposium.

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### **References**

1. Vanselow NA, Donaldson MS, Yordy KD. A new definition of primary care. *JAMA*, 1995; 273: 192.
2. Deutsch L, Bronzino JD, Farmer S. Children's Health, Community Networks, and the NII: Making the Connections, in *Health Care Information Infrastructure*, Kun LG, editor, *Proc. SPIE*, 1996; 2618:58-62.
3. Lindberg DAB, Humphreys BL. The High-Performance Computing and Communications Program, the National Information Infrastructure, and health care. *JAMIA*, 1995; 2:156-159.